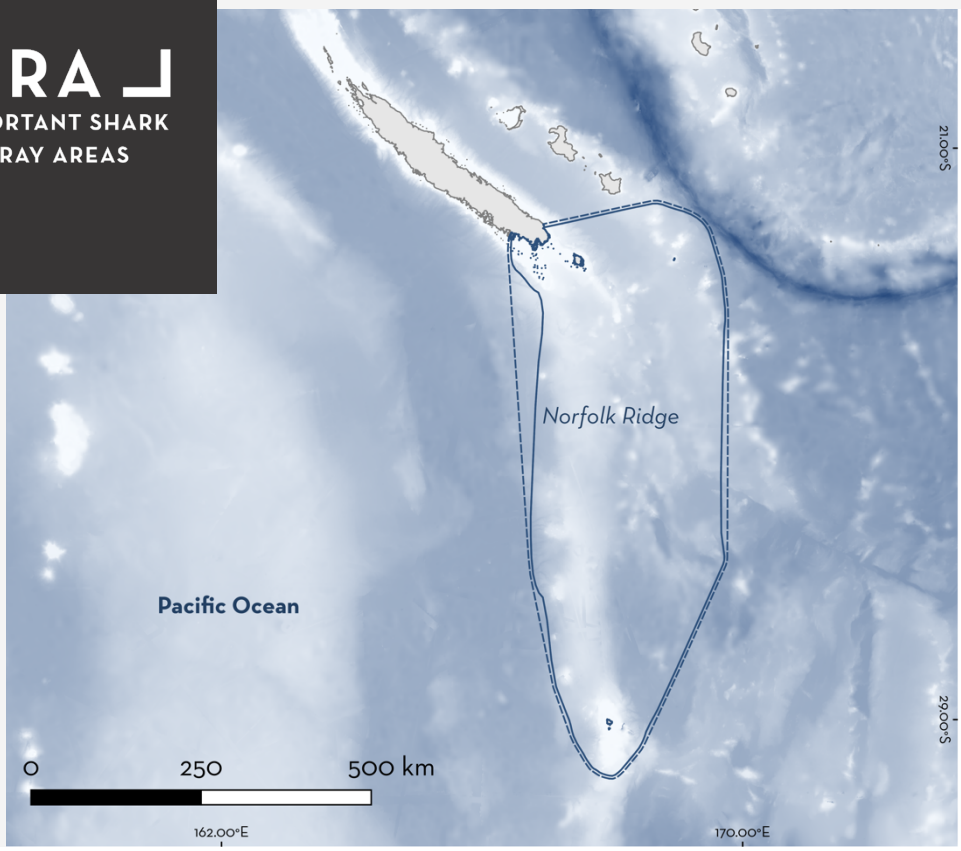
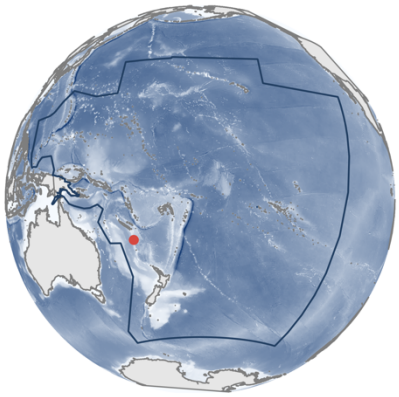
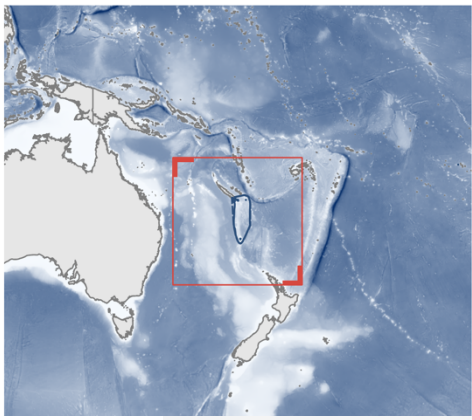
ISRA
IMPORTANT SHARK AND RAY AREAS







Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

NORFOLK RIDGE ISRA

New Zealand & Pacific Islands Region

AUSTRALIA, NEW CALEDONIA, ABNJ

0–1,275 metres

215,711 km²

SUMMARY

Norfolk Ridge is located in the western South Pacific Ocean between New Caledonia and Norfolk Island. The area follows an extensive ridge system with a depth of 1,000–1,500 m that is interspersed with seamounts and islands. It is influenced by the westward South Equatorial Current and an associated countercurrent in New Caledonia, and by the Tropical Convergence near Norfolk Island. Norfolk Ridge partly overlaps with the Norfolk Marine Park, the New Caledonian Natural Park of the Coral Sea, the Seamounts of West Norfolk Ridge Ecologically or Biologically Significant Marine Area, and the Norfolk Island/Phillip Island Key Biodiversity Area. Within this area there are areas important for **movement** (Tiger Shark *Galeocerdo cuvier*).

CRITERIA

Sub-criterion C4 – Movement Areas

DESCRIPTION OF HABITAT

Norfolk Ridge is located in the western South Pacific Ocean between New Caledonia and Norfolk Island. This area encompasses part of a larger ridge system which extends from New Zealand to New Caledonia at depths of ~1,000–1,500 m and is interspersed with islands and seamounts of volcanic origin (Francis 1993). The oceanography of the region is influenced by the East Australian Current, which flows southwards from the Coral Sea to east of Tasmania, and the South Equatorial Current, which carries tropical Pacific Ocean waters towards the Coral and Tasman Seas. Norfolk Island, at the southern end of the area, is situated at the southern limit of the Tropical Convergence, which can seasonally influence the currents (Francis 1993). When the Tropical Convergence lies south of Norfolk Island in some austral summers, warm water flows southward, while at other times the flow is eastward or northward past the island (Francis 1993). In the northern part of the area, around southern New Caledonia, the complex currents are influenced by the westward flow of the South Equatorial Current and the eastward countercurrents originating in the lee of the islands (Cravatte et al. 2015).

Norfolk Ridge partly overlaps with the Norfolk Marine Park and the New Caledonian Natural Park of the Coral Sea. It also partly overlaps with the Seamounts of West Norfolk Ridge Ecologically or Biologically Significant Marine Area (EBSA; CBD 2024) and with the Norfolk Island/Phillip Island Key Biodiversity Area (KBA 2024).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 1,275 m based on the global depth range of the Qualifying Species.

ISRA CRITERIA

SUB-CRITERION C4 – MOVEMENT AREAS

Norfolk Ridge is an important movement area for one shark species.

Tiger Sharks seasonally migrate between Norfolk Island and New Caledonia. A four-year movement study (2020–2024) of 35 Tiger Sharks tagged with SPOT satellite tags off Norfolk Island (combined tracking duration: 26.7 years) has shown consistent annual migration through the area (C Huveneers et al. unpubl. data 2024). Norfolk Ridge connects the species' seasonal feeding aggregation at Norfolk Island (December–May) with coastal areas of New Caledonia. All tracked individuals were adults or at least maturing with a total length >300 cm, and most were female (80%), reflective of the population structure at Norfolk Island (C Huveneers et al. unpubl. data 2024). Nineteen of 32 individuals with usable tracks (59%) moved from Norfolk Island directly to New Caledonia. They had a fast transit time in both directions, with a median duration of 15 days (Norfolk Island to New Caledonia) and 13 days (New Caledonia to Norfolk Island). Many of the tracks that span across multiple seasons used the area annually for their migration to and from Norfolk Island, with 88% of Tiger Sharks with a track duration >300 days (n = 16) making seasonal migrations (C Huveneers et al. unpubl. data 2024). The fast transit time and the important seasonal prey resources (mainly nesting seabirds) at Norfolk Island (L Meyer et al. unpubl. data 2024) make it likely that the Norfolk Ridge may be used as a navigational tool for Tiger Sharks to make their seasonal migration to this small offshore island ~750 km from the nearest land.

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QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
SHARKS												
Galeocerdo cuvier	Tiger Shark	NT	0–1,275						X			

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.

REFERENCES

Convention on Biological Diversity (CBD). 2024. Seamounts of West Norfolk Ridge. Ecologically or Biologically Significant Areas (EBSAs). Available at: https://chm.cbd.int/database/record?documentID=200036 Accessed July 2024.

Cravatte S, Kestenare E, Eldin G, Ganachaud A, Lefèvre J, Marin F, Menkes C, Aucan J. 2015. Regional circulation around New Caledonia from two decades of observations. *Journal of Marine Systems* 148: 249–271. https://doi.org/10.1016/j.jmarsys.2015.03.004

Francis MP. 1993. Checklist of the coastal fishes of Lord Howe, Norfolk, and Kermadec Islands, southwest Pacific Ocean. *Pacific Science* 47(2): 136–170.

Key Biodiversity Areas (KBA). 2024. Key Biodiversity Areas factsheet: Norfolk Island/Phillip Island. Available at: https://www.keybiodiversityareas.org/site/factsheet/30716 Accessed July 2024.